

REMARKS

The Examiner is respectfully requested to reconsider the restriction requirement in light of the above amendment to claim 2. The implication that a catalyst is required has been eliminated, and the temperature language has been made to track page 6, line 5. As to the observation that Example 1 is conducted without solvent, it is respectfully pointed out that claim 2 does not require the use of a solvent.

The restriction requirement has been justified on the grounds that one or more of four reasons applied without indicating which, if any, are applicable. It is once again respectfully submitted that none of those possibilities are applicable. Claim 1 states that the dispersant is a reaction product of polyisobutylene amine with 1,2,4-benzene-tricarboxylic anhydride. The method involves reacting those two materials to form the reaction product. Any search would, therefore, require that the exact same classes and subclasses be considered. Nevertheless, if the Examiner still believes a recited reason is applicable, identification of it (or them) is requested so that a proper evaluation of the Petition evaluation can be undertaken.

Withdrawal of the restriction requirement is respectfully solicited.

Claims 15 is rejected under 35 U.S.C. 112 as being indefinite because it allegedly contain trademarks or trade names. No factual support for the contention that BONA constitutes a trademark or trade name is identified. Applicants previously stated that BONA is a shorthand well known in the art to refer to 2-hydroxy-3-naphthoic acid, and now also directs the Examiner's attention to US 6,613,140 claim 4. To avoid further argument, claim 15 has been amended to recite the chemical name.

The rejection of claim 1 under 35 U.S.C. 102 as anticipated by Franz is respectfully traversed.

The Office Action asserts that Franz teaches the reaction product of trimellitic anhydride and polyisobutyl amine, citing lines 30 and 40 in column 5,. The first of these citations refer to the reaction of trimellitic anhydride with polyisobutyl alcohol, not polyisobutyl amine. The second citation refers to polyisobutyl amines which are proposed for combination with polyisobutyl alcohol, the latter being an additive to the motor fuel composition of this reference. Even assuming for the sake of argument that the Franz reference contained a generic disclosure which would encompass current claim 1, it is well established that a generic disclosure does not constitute an anticipation in the absence of a specific disclosure of a species within the claim being rejected. See, e.g., *Corning Glass Works v. Sumatomo Electric U.S.A. Inc.* 9 USPQ 2nd 1962, 1970 (Fed Circuit 1989). Since there is no explicit in disclosure of a reaction product of trimellitic anhydride and polyisobutyl amine in the Franz patent, the anticipation rejection is not tenable. A rejection under Section 103 would also be untenable because the property of the reaction product of claim 1 of being a dispersant for a colorant constitutes a surprising and unexpected characteristic which is not predictable from the disclosure of the motor fuel or lubricant compositions of Franz.

While it is not strictly necessary in light of the foregoing, it is respectfully submitted that the paragraphs at the top of page 4 of the Office Action are not sufficient to justify the rejection. The only temperature of 180°C that were noted in the Franz patent is at column 4, line 39 and relates to a hydroformulation reaction and while a temperature of 140°C for four hours is used in Example 1 of the application, that is before the polyisobutylene amine is introduced. As to the following paragraph, it is respectfully

submitted that the presence or absence of another material is irrelevant when the polyimide claimed is not anticipated.

Claims 1 and 11-21 were rejected under 35 U.S.C. 103 over Winter in combination with Patil. This rejection is respectfully traversed.

Winter relates to cyclic imides which are used as synergist for improving the properties of aqueous pigment preparations. The imides are those compounds of formula I. As the title makes clear and the working example show, the imides are synergists for other ingredients in the dispersions, such as dispersants. It is pointed out that prior art compounds were not capable of enhancing the fluidity and flocculation stability of a pigment dispersion without degrading other properties such as dispersibility (col. 1, lines 40-44). The cyclic imides serve this function but there is no indication in this reference that the imide is itself a dispersant. Instead, materials such as surfactants serve as dispersants. In this connection, see col. 4, lines 10-15 and note the designation of nonionic surfactants as dispersants in the working examples (e.g., col. 5, lines 61-62 and col. 7, lines 3-4).

Winter states that the imides are the reaction product of a cyclic anhydride and a fatty amine at column 2, lines 44-48, and that the anhydrides are prepared from dicarboxylic acids at column 2, lines 48-50. The dispersant of the present invention is a reaction product of a polyisobutylene amine and 1,2,4-benzenetricarboxylic anhydride. Polyisobutylene amine is not a fatty acid amine, and 1,2,4-benzenetricarboxylic anhydride is derived from a tricarboxylic acid. There is no mention of either of these reactants in the Winter reference. While the Office Action has taken issue with this last statement, it is respectfully submitted to be correct. Even if formula I "encompasses" these reactants, it does not mean there is a disclosure of the specific compounds, and they are not so

disclosed, as evidenced by a lack of any citation to the text where polyisobutylene amine and 1,2,4-benzenetricarboxylic anhydride are specifically named. It is further evidenced by the Office Action acknowledgement on page 6 that “a reaction product of polyisobutylene” is not taught in this reference.

Winter Formula I indicates that R^1 can be a straight-chain, branch chain or cyclic aliphatic radical, that each R^2 through R^5 can be the same or different and denote one of fifteen entities, that R^6 and R^7 can be one of two entities, and that M can be any cation having a valence of one to three. The number of combinations and permutations falling within the scope of this disclosure is immense, numbering in the billions, even before taking the number of carbon atom possibilities, possible radical branching, and the number of possible halogens into consideration.

The Office Action has asserted that Formula I encompasses the reaction product of the present invention. In this connection, the Office Actions points that when R^2 , R^4 and R^5 are hydrogen, R^3 is $COOR^6$ and R^6 is hydrogen, the formula would represent an amine based on 1,2,4-benzene tricarboxylic anhydride. The Office Action, however, does not identify any reason why one skilled in the art would make these selections. For example, why would a person skilled in the art make R^4 hydrogen and not $COOR^6$? There is no reason present in the reference which would do so. Quite to the contrary, based on the title, the indication that the compounds are preferably prepared from dicarboxylic acids, and the use of phthalic anhydride in all of the above examples, one skilled in the art would be led to select all of R^2 through R^5 being hydrogen.

The same is true with respect to the polyisobutylene moiety. Winter states that R^1 can be any straight chained, branched chained or cyclic aliphatic radical having ten to

thirty carbon atoms and further indicates at column 2, lines 35-36, that these are preferably the fatty acid radicals decyl, dodecyl, tetradecyl, octadecyl, isotridecyl, lauryl, oleyl or stearyl. The preferred R¹ radicals do not encompass polyisobutylene. What disclosure is there in Winter which would lead one skilled in the art to select and employ isobutylene? The answer is there is no such disclosure.

Winter Formula 1 constitutes a shotgun disclosure vis-à-vis the reaction product of claim 1 in the present application. It is a shotgun disclosure with respect to each of the reactants considered individually as well as to the reaction product itself. It is respectfully submitted that the "likelihood of producing a composition such as here claimed from a disclosure such as shown by the [reference] patent would be about the same as the likelihood of discovering the combination of a safe from a mere inspection of the dials thereof." *In re Luvisi*, 144 USPQ 646, 650-51 (CCPA 1965) (quoting from Ex parte Garvey, 41 USPQ 583, 584, with emphasis by the Court).

It will be appreciated from the foregoing that the Winter patent has two major deficiencies with respect to the claims being rejected. It does not teach or suggest selecting the reactants which form the reaction product based on the virtually unlimited scope of Formula I, and quite to the contrary, the stated preference for a dicarboxylic acid and fatty amines teaches away from making the appropriate selections. Secondly, while it teaches that the cyclic imides of Formula 1 would not degrade of other materials to act as a dispersant, it does not suggest that the cyclic imides could act as a dispersant for a colorant.

Winter provides no *prima facie* basis for contending anything claimed in this application is obvious, and not only does the Patil fail to remedy the deficiencies of Winter, it actually reinforces them.

To the extent that Patil discloses any type of dispersant, it is a polyisobutylene succinimide, as the Examiner has pointed out. Succinic acid, however, is a dicarboxylic acid. The reference therefore reinforces Winter's teaching of using a dicarboxylic derived material whereas the dispersant of the present invention is derived from a tricarboxylic entity.

Winter also fails to teach or suggest that an imide can be a dispersant for a colorant composition. Patil does not cure this deficiency. While it does indicate that compounds of that invention possess good dispersant qualities in a wide variety of environments at column 24, line 45, it must be appreciated that immediately following this disclosure, it is pointed out that the only type of environment to which Patil has relevance is oleaginous compositions such as the fuels and lubricating oils which the patent discloses in that teaching. This is also reiterated at column 3, lines 32-34. There is nothing in any portion of the Patil disclosure which teaches, suggests or even hints that any material disclosed therein can act as a dispersant for a colorant. This reference, therefore, does not provide any factual basis for contending that any material of Winter can act as a dispersant for a colorant.

The reaction product of the present invention has excellent dispersing properties for a colorant used in, for example, printing inks. Nothing in the art teaches or suggests that such a reaction product may have these properties, and the fact that it does, is entirely unpredictable.

The various deficiencies in the references discussed above coupled with the teaching away from the invention as well as the unpredictable, surprising and unexpected properties of the reaction product make it unnecessary to address other assertions made in the current Office Action. All claims are clearly patentable over this combination of references.

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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